$\mathcal{U}$

UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/846,121	04/30/2001	Joseph B. Elad	QUANTUM-1	5233

54884   7590   12/27/2007
GOMEZ INTERNATIONAL PATENT OFFICE, LLC
1501 N. RODNEY STREET
SUITE 101
WILMINGTON, DE 19806

EXAMINER
DASS, HARISH T

ART UNIT	PAPER NUMBER
3692	

MAIL DATE	DELIVERY MODE
12/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE **3** MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>02 October 2007</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-60</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-56</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) <u>57-60</u> are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

10/02/2007 has been entered.

Status of Claims:

Claims 1-56 are pending.

Claims 57-60 remain restricted (The limitations of claim 1 and claim 57 are

different with different scope).

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of
> making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the
> art to which it pertains, or with which it is most nearly connected, to make and use the same and shall
> set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-56 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with

the enablement requirement. The claim(s) contains subject matter which was not

described in the specification in such a way as to reasonably convey to one skilled in

the relevant art that the inventor(s), at the time the application was filed, had possession

of the claimed invention. The new matter is not limited to "plurality of intrinsic or extrinsic

attributes", but includes all newly added limitations such as: "having one or more

processors or virtual machine, one or more memory units ...", "matches in computer

memory", etc. These added matters in preamble and claimed limitations cannot be

found in original specification. intrinsic or extrinsic are not disclosed/explained in

specification what is included or excluded. Examiner cannot find any closes reference to

these added limitations in specification. This rejection will be removed when

applicant/attorney positively show that theses are in original specification (page number

and lines).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as
> set forth in section 102 of this title, if the differences between the subject matter sought to be
> patented and the prior art are such that the subject matter as a whole would have been
> obvious at the time the invention was made to a person having ordinary skill in the art to
> which said subject matter pertains. Patentability shall not be negatived by the manner in
> which the invention was made.

Claims 1-6 and 28-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Shoham et al (hereinafter Shoham - US 6,584,451) in view of Lupien et al (6,012,046)

and Van Etten et al. (US 6,892,185)

Re. Claim 1, Shoham discloses (a) creating a *buyers* abstract representation of at least

one attribute of a request, and the relationship between at least one utility of the request

and at least one state of the at least one attribute *[see entire document particularly -*
Abstract; Figure 2; C2 L1-L32; C3 L40-L59; C4 L41-L47; C12 L25-L30]; (b) creating a

*seller*s abstract representation of at least one attribute of an offer, and the relationship

between the total price of the offering and at least one state of the at least one attribute

[Figures 6A-6B; C2 L47-L56]; (e) signaling that the quantities and identities of

assignments are accepted and that the transaction is committed by *buyer*s and *seller*s

[figures 6B, 12#1232; C2 L25-L27; C6 L9-L16].

Shoham does not explicitly disclose (c) computing a rating for overall satisfaction

of the at least one attribute of a request with respect to a given offer, and (d)

determining the quantity and identity of assignments of *seller*s' offerings to *buyer*s'

requests that produces the best set of matches for a given market, plurality of intrinsic

or extrinsic attributes.

However, RFQ, RFP, specifications, procurements, purchase orders are old and

well known specially in non-commercial items (industrial, nuclear, defense, projects,

etc), where the requisitions are detailed with protocols from what will be supplied, how

will be supplied/delivery/schedule, when will be supplied/shipped, how long the price

quotation is valid, how the payments will be made. The supplier and the buyer

agree/modify/finalize the terms of the contract before the purchase order is written.

Van Etten et al. discloses procurement system for special items with plurality of

intrinsic or extrinsic attributes [see at least, col. 1 lines 1-30; col. 2 lines 10-43; col. 5

lines 7-26]. . It would have been obvious at the time the invention was made to a person

having ordinary skill in the art to modify the disclosure of Shoham and include plurality

of intrinsic or extrinsic attributes, as disclosed by the Van Etten et al., to describe the items with all possible attributes for acquiring the item needed or an item which is the closes compatible to buyer's specification.

Lupien discloses (c) computing a rating for overall satisfaction of the at least one attribute of a request with respect to a given offer, and (d) determining the quantity and identity of assignments of sellers' offerings to buyers' requests that produces the best set of matches for a given market [Lupien – abstract; C1 L50-L52; C2 L65 to C3 L5; C11 L21-L46] to provides a substantially greater price discovery across the full range of trade sizes. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the disclosure of Shoham and Van Etten et al. and include computing a rating for overall satisfaction of the at least one attribute of a request with respect to a given offer, and (d) determining the quantity and identity of assignments of sellers' offerings to buyers' requests that produces the best set of matches for a given market, as disclosed by Lupien, to provide a crossing network that matches buy and sell orders (items, goods, etc.) based on satisfaction and quantity profile.

Re. Claim 2, Lupien further discloses (a) recording the request and offer data, along with the transaction price and quantity, for the committed transactions, and for other transactions that scored sufficiently well, and for requests and offers that were not matched in the market[Lupien –C6 L14-L29] to store the buyers/sellers profiles in database which can be used later. (b) inferring (COLLECTING) market value

relationships from other data sources, such as *sellers'* advertisements, and or *buyers'*

requests for proposals (market prices

) *[C1 L50-52] to set a market price.* And (c) using of mathematical function

approximation techniques for constructing market value functions that describe the

relationship between price and the states of various attributes in a hypothetical market

[C5 L1-L7; C14 L25-L40] to compute a single size and price for transition. "It would have

been obvious at the time the invention was made to a person having ordinary skill in the

art to combine the disclosures of Shoham and Van Etten et al. and Lupien to provide a

system which can store market data and utilize the data to calculate price based on the

stored and accumulated values for better approximate market value or average value.

Re. Claims 3-4, Shoham discloses (a) forming the best partition of the *buyers'* requests

into groups or singletons of requests whose representation of attributes can be satisfied

by the same *seller* offering *[C4 L56 to C5 L15];*(b) forming the combined abstract

representation of the requests for the consortium, said representation which will satisfy

each *buyer* in the consortium*[C1 L50-L60]. Shoham does not explicitly disclose* (c)

constructing an artificial negotiating entity that will represent at least one consortium,

and can conceal the identities of the *buyers* in the consortium. However, Lupien further

discloses this step [C1 L40-L67] to preserve the anonymity of the traders. "It would have

been obvious at the time the invention was made to a person having ordinary skill in the

art to combine the disclosures of Shoham and Van Etten et al. and Lupien to not

discloses the identity of the trader as a business practice and better competition.

Re. Claim 5, Lupien further discloses wherein the at least one attribute includes both intrinsic qualities of the object of the request or offer, and extrinsic qualities of the transaction or market protocols, wherein the extrinsic attributes comprise commitment protocols and time qualifications [C5 L1-L7] to allow traders to input variables (attributes) other than price and quantity as a profile to provide specifics what they are looking for. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the disclosure of Shoham and Van Etten et al. and include intrinsic qualities and extrinsic qualities of trading object to better describe the nature of the object of trade.

Re. Claim 6, Shoham discloses (a) combining abstract representations from at least two market participants, to combine maximize the satisfaction for the consortium of those participants, and

(b) using *buyers*' consortiums rather than individual *buyers* and *sellers*' consortiums, or individual *sellers*, in determining the best set of matches, and whereby a transaction can be accomplished between consortia, rather than individual *buyers* and *sellers* (OBCS and SellCo which can be a company made of sellers e.g., agricultural cooperative club) [C2 L33-65].

Claims 28-33 have same limitations as claims 1-6 above, respectively. Therefore these claims are rejected with same rational as claims 1-6 (Note: Shoham online system inherently includes memory device, matches are done by computer, inputs, etc).

Claims 7-13, 16, 18, 22-27 and 34-40, 43, 45, 49-56, are rejected under 35 U.S.C. 103(a) as being unpatentable over Shoham, Van Etten et al. and Lupien, as applied to claims 1-6 and 28-33 above, further in view of Conklin et al (hereinafter Conklin – US 6,141,653).

Re. Claim 7, Shoham discloses (a) forming the best partition of the *buyers*' requests into groups or singletons of requests whose representation of attributes can be satisfied by the same *seller* offering *and* (b) forming the combined abstract representation of the requests for the consortium, said representation which will satisfy each *buyer* in the consortium *[C2 L57 to C3 L7; C4 L47 to C5 L14]. Shoham does not explicitly disclose* (c) constructing an artificial negotiating entity that will represent at least one consortium, and can conceal the identities of the buyers in the consortium; and automatically joining sellers' offerings in a consortium by: (d) forming the best partition of the sellers' offerings into groups or singletons of offerings which considered together achieve the highest values on hypothetical market transactions, with regard to the value functions constructed in claim 2; (e) forming the abstract representation of the offerings for the consortium, said representation which will represent each offer in the consortium; and (f) constructing an artificial negotiating entity that will represent at least one consortium,

and can conceal the identities of the sellers in the consortium, and using the market

value data from transactions to construct mathematical function approximations

predicting the value of states of attributes for hypothetical transactions to construct a

stream or compendium of market information. However, Conklin discloses (c)

constructing an artificial negotiating entity that will represent at least one consortium,

and can conceal the identities of the *buyers* in the consortium; and automatically joining

sellers' offerings in a consortium by: (d) forming the best partition of the *sellers*' offerings

into groups or singletons of offerings which considered together achieve the highest

values on hypothetical market transactions (e) forming the abstract representation of the

offerings for the consortium, said representation which will represent each offer in the

consortium; and (f) a means of constructing an artificial negotiating entity that will

represent at least one consortium, and can conceal the identities of the *sellers* in the

consortium, and using the market value data from transactions to construct

mathematical function approximations predicting the value of states of attributes for

hypothetical transactions to construct a stream or compendium of market information

[Abstract; Figures 1c, -1g, 1j-1n, 3; C8 L49-L52; C18 L37-L65; C25 L21-L34] to provide

comprehensive iterative bargaining abilities for both buyers and sellers that enable them

to negotiate all the terms and conditions of a transaction not just the price. Lupien

discloses and using the market value data from transactions to construct mathematical

function approximations predicting the value of states of attributes for transactions to

construct a stream or compendium of market information [C7 30-L53C20 L54 to C22

L45] to achieve highest value of mutual satisfaction. It would have been obvious at the

time the invention was made to a person having ordinary skill in the art to modify the

disclosures of Shoham and Van Etten et al. and Lupien and add artificial negotiating

entity and hypothetical market transactions, as disclosed by Conklin to provide

comprehensive negotiating abilities for both buyers and sellers that enable them to

negotiate all the terms and conditions of a transaction not just the price.

Re. Claims 8-13, Lupien further discloses further comprising numerically representing

the determination of best assignments and quantities as an optimization problem and

optimizing the assignments and quantities by finding the total of each *buyer*'s and each

seller's satisfaction with the transactions to be committed, comprises matching the at

least one attribute of a request and the at least one attribute of an offer by inferring the

match of the attribute qualities of a request which are logically implied by attribute

qualities of an offer, and further comprising determining the quantity and identity of

assignments of *seller*s' offerings to *buyer*s' requests which produce the best set of

feasible matches for a given market, linear regression, numeric optimization, comprising

using a total market excess value as the measure of highest total market value

(satisfaction density) [C12 L33 to C14 L55; C12 L33-L36 (linear regression); C13 L48 to

C14 L8 (numeric optimization)] to provide optimization approach which maximizes

sequentially the mutual satisfaction at each stage of the allocation process, by assigning

allocations based upon the highest remaining mutual satisfaction value and where the

approach has the virtue of being computationally tractable and generally yielding

allocations with tight spreads in price. It would have been obvious at the time the

invention was made to a person having ordinary skill in the art to modify the disclosure

of Shoham and Van Etten et al. and Conklin and add optimization, as disclosed by

Lupien, to best attributes which satisfies the transactions between the sellers and buyer.

Re. Claim 16 Shoham wherein the request and offer data, the transaction price and

quantity, the committed transactions, other transactions that scored sufficiently well, and

the requests and offers that were not matched in the market are made available to

market participants [C7 L5-L45].

Re. Claim 18, Shoham, Van Etten et al. or Lupien does not explicitly disclose wherein

an ontology is used for inferring the match of the at least one attribute state of a request

which is logically implied by the at least one attribute state of an offer. However,

ontology or meta-data (as defined by the applicant in remarks) is known in object

oriented software to capsulate the attributes, properties and functions associated with

the property of a instance of an object (class) and store the object as a tool which can

be modified without changing the software as whole and make use of the defined object

as an entity. It would have been obvious at the time the invention was made to a person

having ordinary skill in the art to modify the disclosure of Shoham and Van Etten et al.

and Lupien and include meta-data to make use of object oriented software for ease of

use and maintenance of the software.

Re. Claims 22- 24, Shoham does not explicitly disclose invoking auction protocols when

there is at least two requests per one offer or at least two offers per one request,

wherein the abstract representation of the relationship of the utility of an attribute of the

request, is created using at least one technique selected from the group consisting of

(a) linear functions, (b) piece-wise linear functions, (c) logistic functions,

(d) cubic splines, (e) look-up tables, and (f) other numeric functions that compute utility

with respect to a given attribute's states, and wherein the abstract representation of the

relationship between price of the offer and at least two states of an attribute of the offer,

is created using at least one technique selected from the group consisting of (a) linear

functions, (b) piece-wise linear functions, (c) logistic functions,

(d) cubic splines, (e) look-up tables, and (f) other numeric functions that compute price

with respect to a given attribute's states. However, these are will known for example,

generally auction has more than one offer only the highest wins and statistical

calculations are commonly down to calculate and predict the probability of success and

efficiency of a process or an outcome with costly experiment. It would have been

obvious at the time the invention was made to a person having ordinary skill in the art to

modify the disclosures of Shoham, Van Etten et al., Lupien and Conklin to add statistical

analysis to predict the success of auction prior to auctioning the goods or service.

Re. Claim 25, Shoham discloses further comprising communicating the abstract

representations of requests and offerings by termsheets and offersheets, respectively

(allow buyers to quote prices and invite sellers to accept the quote and purchase terms) [C1 L24-L28; C10 L38-L50].

Re. Claim 26, Shoham does not explicitly further comprising describing the requests as employment positions and describing the offerings as employee attributes and compensation requirements. However, this is well known that an agent can request for employment.

Re. Claim 27. Shoham discloses further comprising describing the requests as tasks to be accomplished, and describing the offers as agents, people and or software, willing to accomplish those tasks [C1 L2 L17-L31].

Claims 34-40, 43, 45, 49-54 have same limitations as claims 7-13, 16, 18, and 22-27 above, respectively. Therefore these claims are rejected with same rational as claims 7-13, 16, 18, and 22-27.

Re. Claim 55, Shoham discloses wherein the information is communicated through the internet by internet protocol messages [C1 L15-L20].

Re. Claim 56. Shoham does not explicitly disclose wherein buyers and sellers access the system via web pages, Java clients, or other executable client programs. However,

this is well known to which allows the user (buyer/seller) to place order using commonly

distributed web browsers.

Claims 14-15, 17, 41-42 and 44 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Shoham, Van Etten et al., Lupien and Conklin as applied to claims 10

and 37 above, and further in view of Verba et al (hereinafter Verba – US 6236977).

Re. Claims 14-15 and 17, Shoham, Van Etten et al., Lupien or Conklin discloses

comprising using a multiagent system to distribute the processing across many

processors and memory devices to achieve timely calculations of best assignments and

quantities, wherein a measure of the utility at the least one state of the at least one

attribute is used to compute a rating for the overall satisfaction of a request with respect

to a given offering by using at least one technique selected from the group consisting of:

(a) weighted fuzzy-logic conjunction operators, (b) weighted geometric means, (c) a

weighted version of Yager's T-NORM, (d) weighted arithmetic means, and (e) a

weighted combination, with the weights derived via analytic hierarchy analysis, and

wherein different instances of at least one module of the entire system is specialized for

each different market. However, Verba discloses these steps [Abstract; Figures 1-4, 9;

C2 L13-L36; C3 L26-L37; C4 L38-L60; C6 L24-L53; C22 L66 to C23 L56] to creating a

uniform measure of value and a sophisticated computer-implemented business

management system, which describes both in general terms, and with respect to

specifics useful in real estate marketing where the buyer has its own requirements. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the disclosure of Shoham, Van Etten et al., Lupien and Conklin and include multi-agent system with mathematical algorithm to create a uniform value and a market (buy/sell) system to help agents in marketing their goods and service.

Claims 41-42 and 44 have same limitations as claims 14-15 and 17 above, respectively. Therefore these claims are rejected with same rational as claims 14-15 and 17.

Response to Arguments

4.   Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection necessitated by amendment.

In response to Applicant's argument Election/Restriction, Examiner does not agree with Applicant's that claims 57-60 are not restrictive, because.

The scopes of claims 1 and 57 are different. See dependent claims.

In response to Applicant's argument that "Conklin's system is an interactive ..." See In re Verrner and In re Rundell.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is required under 37 CFR ' 1.111 (c) to consider the references fully when responding to this action.
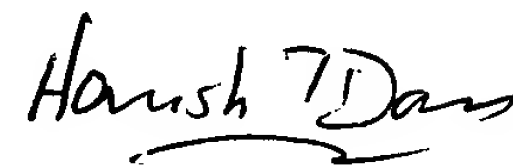
Saeed Samiee "Customer Evaluation of Products in a Global Marke"; Journal of International Business Studies, Vol. 25, No. 3. (3rd Qtr., 1994), pp. 579-604. Saeed discloses consumer research has shown that individuals base their purchasing decisions on information cues. For this reason, information processing is central to all comprehensive consumer behavior models. Information cues can be intrinsic (e.g., product design) and extrinsic (e.g., brand name, price). Although consumers use both intrinsic and extrinsic cues in evaluating products, the latter are likely to be used in the absence of intrinsic cues or when their assessment is not possible. For example, price may be used as a surrogate for performance. To complicate matters, it has also been shown that information search by consumers prior to making purchase decisions is limited.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harish T. Dass whose telephone number is 571-272-6793. The examiner can normally be reached on 8:00 AM to 4:50 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Abdi Kambiz can be reached on 571-272-6702. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Harish T Dass
Primary Examiner
Art Unit 3692

12/20/07